

# Primary Vertex Position Study for 58 GeV/c proton beam on LH2 target

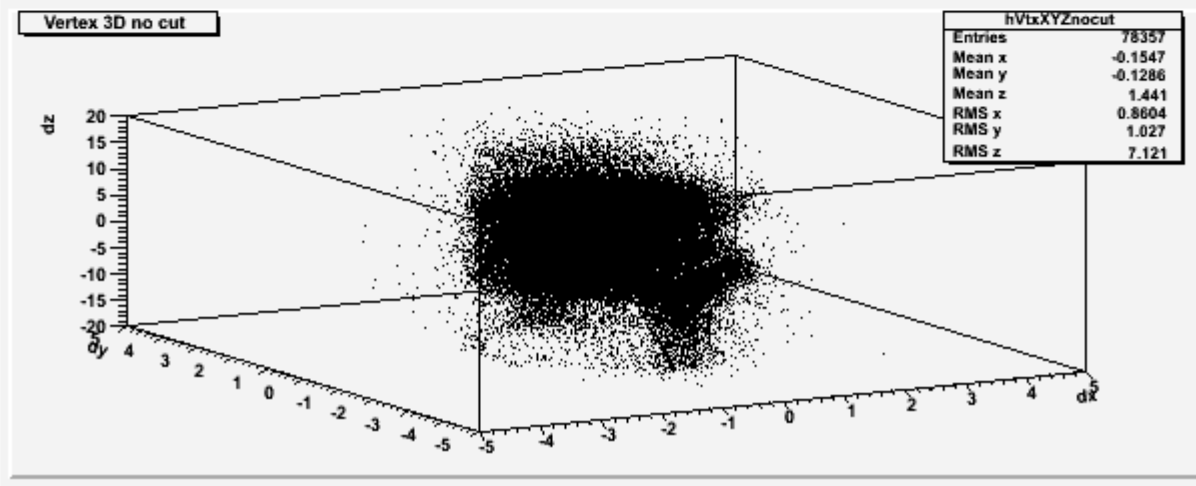
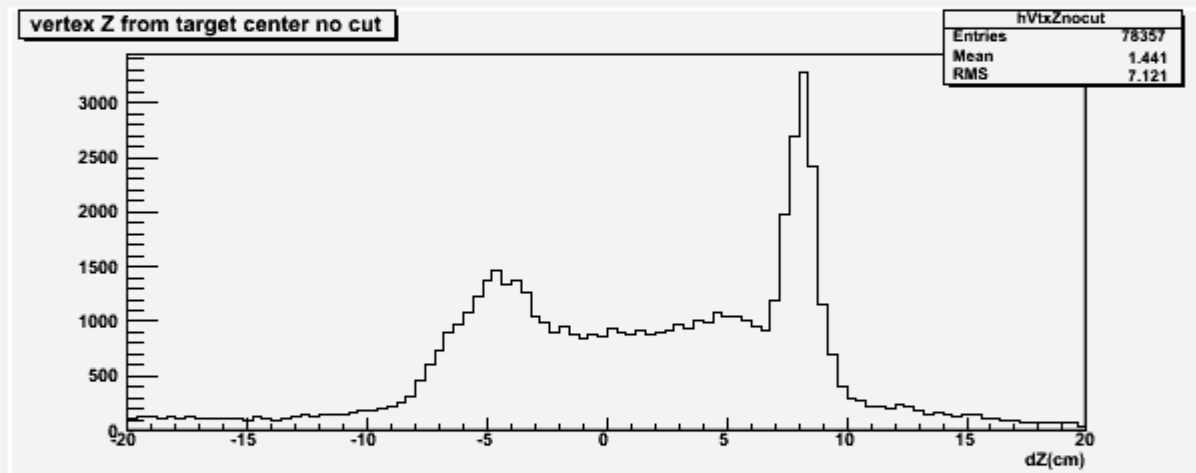
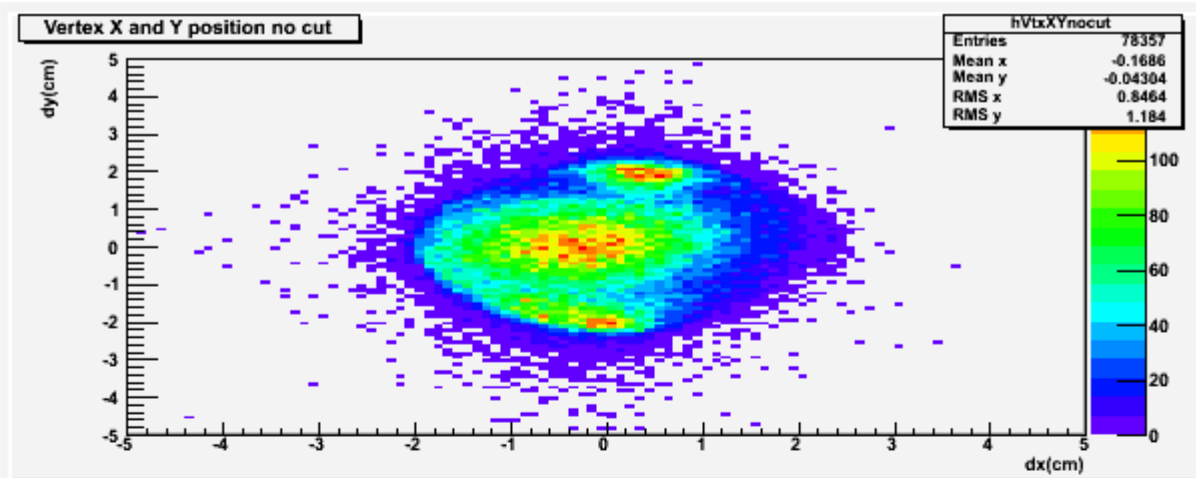
Gural Aydin

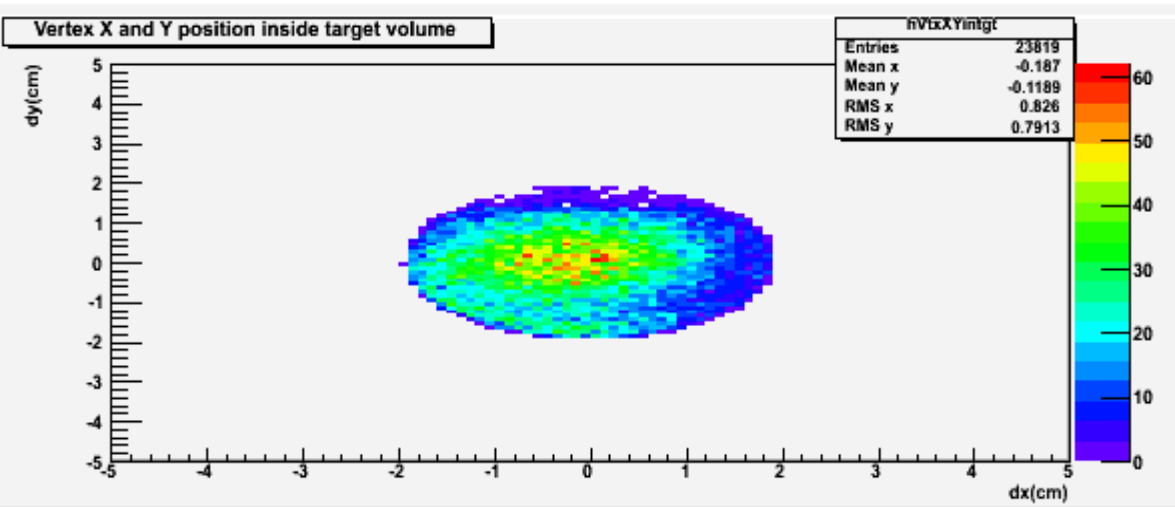
10/17/2008

**-58 GeV/c beam on LH2 target was used to analyze primary vertex position distribution**

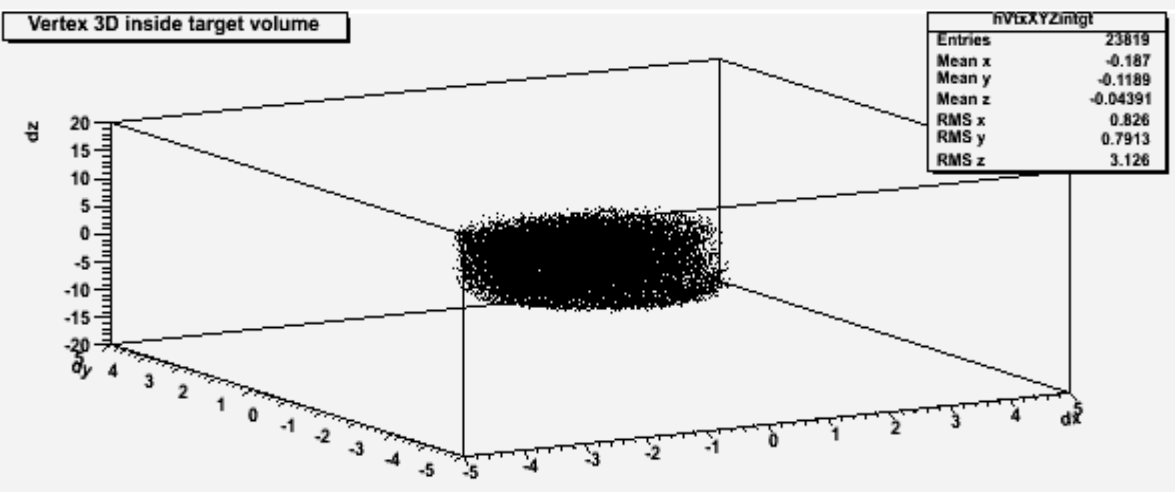
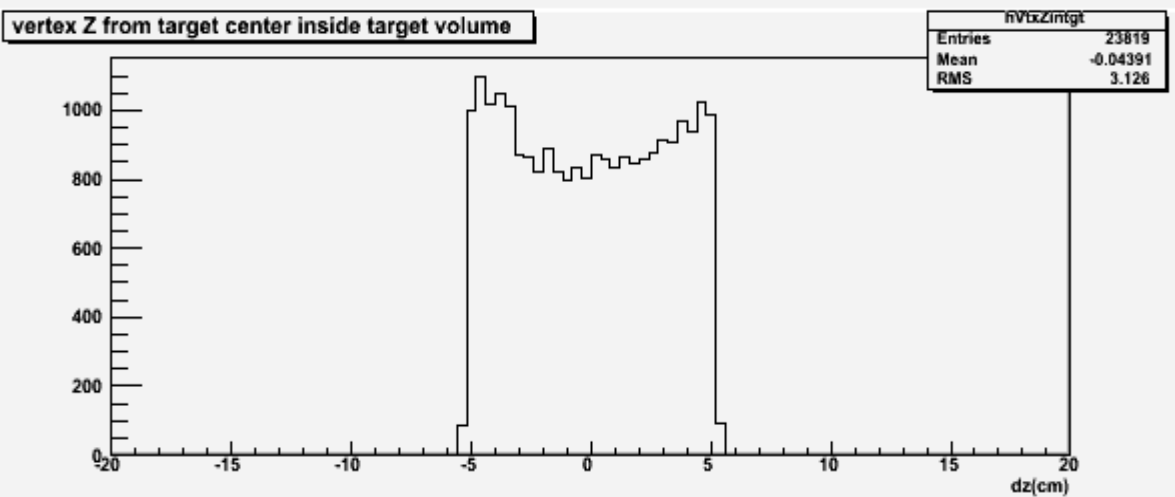
- Primary vertices with more than 1 outgoing tracks were selected**
- Events with only one beam track were selected**
- The goal of the study to find cuts on primary vertex position**

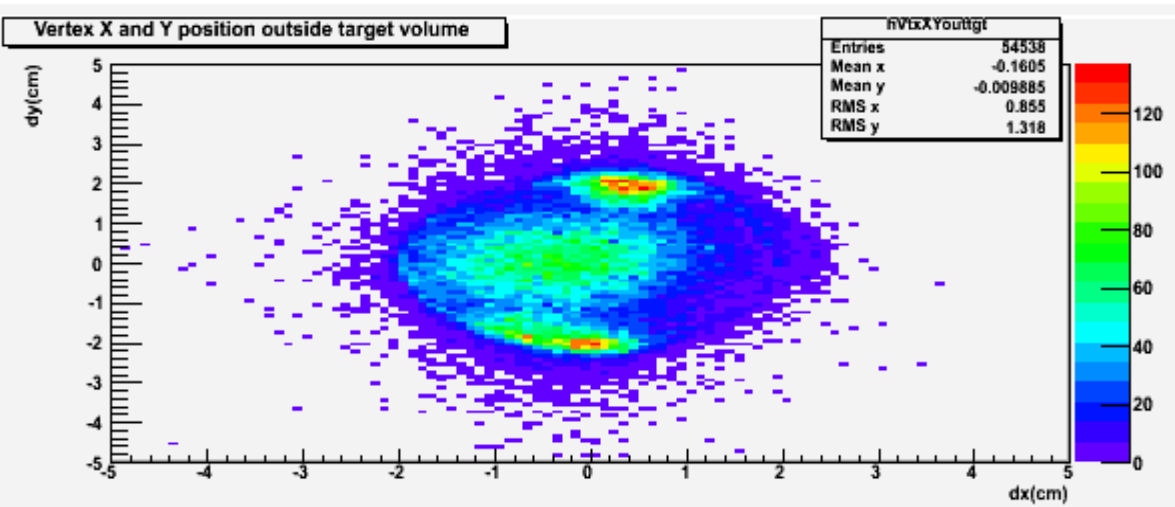
NO CUT on vertex Z  
and R(radial)



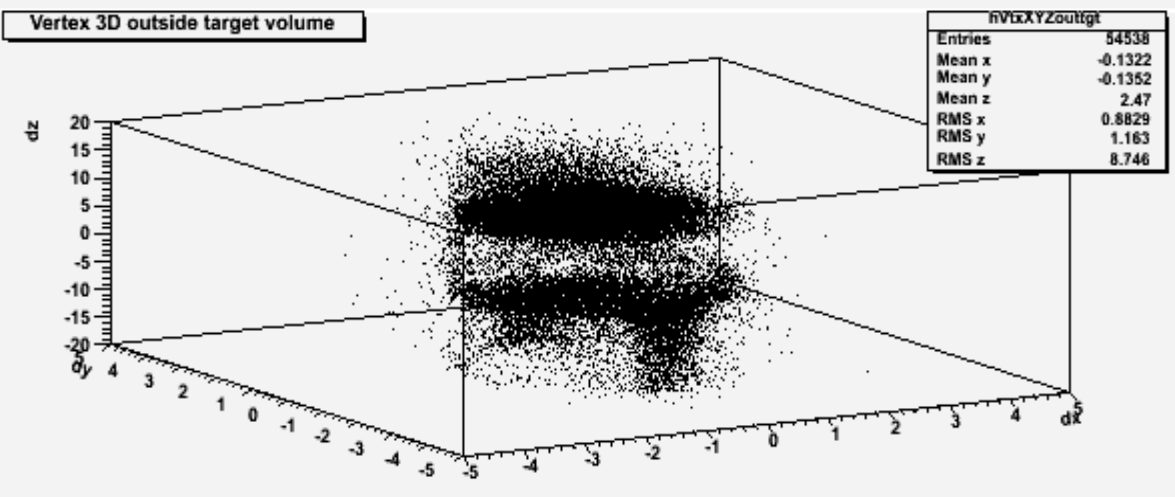
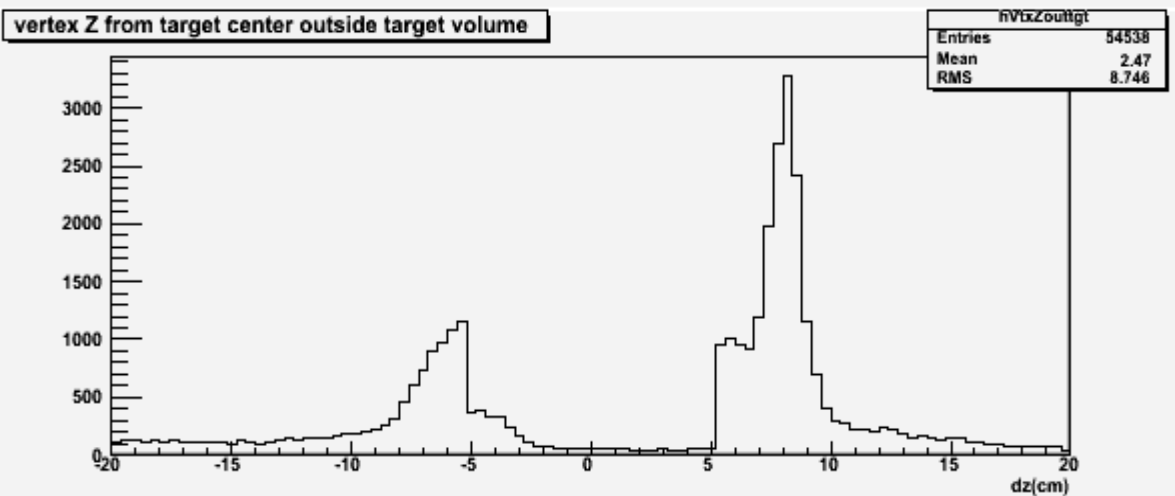


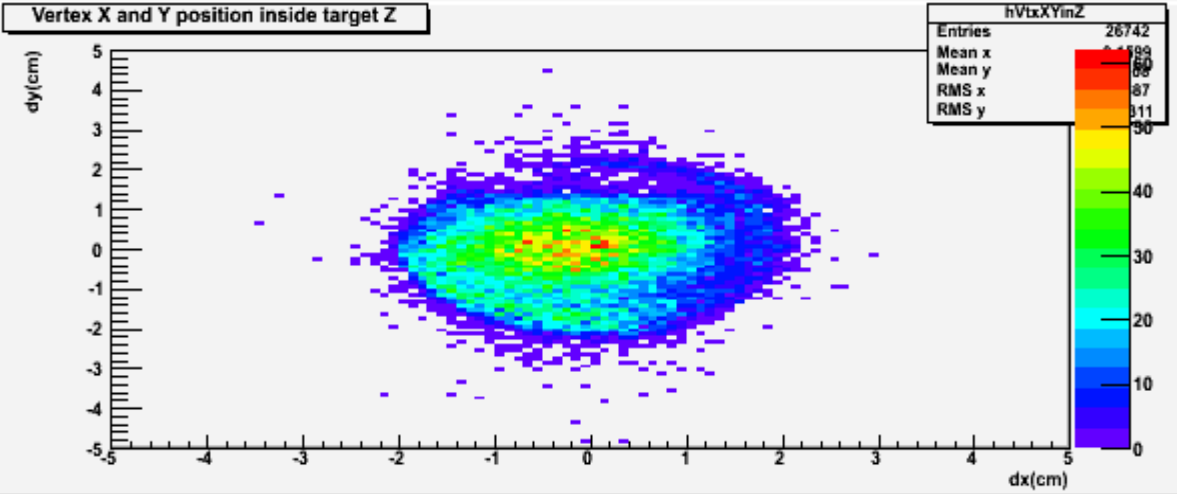
$R < 1.905$  cm AND  
 $|dz| < 5.23$  cm



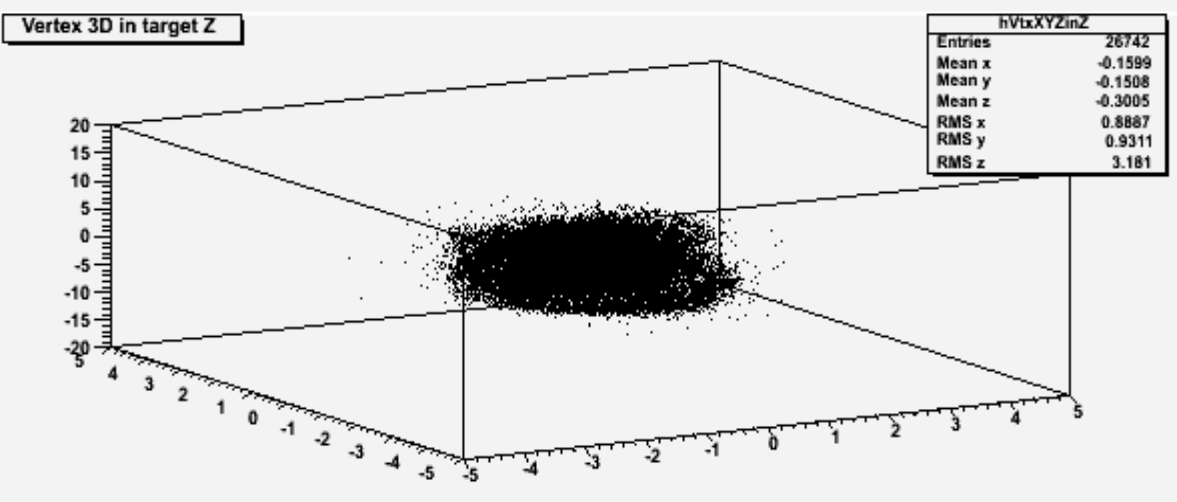
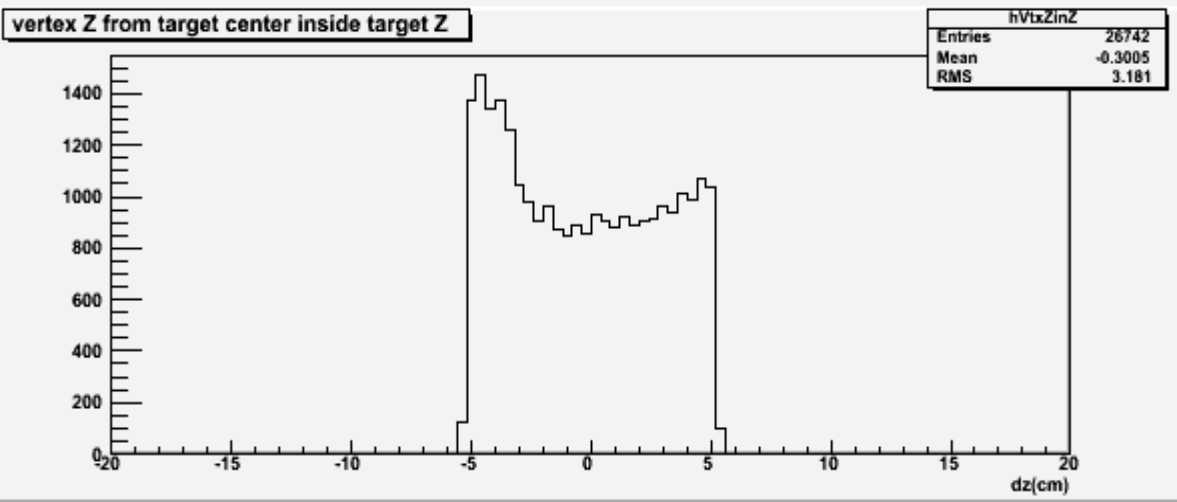


$R > 1.905$  cm OR  
 $|dz| > 5.23$  cm

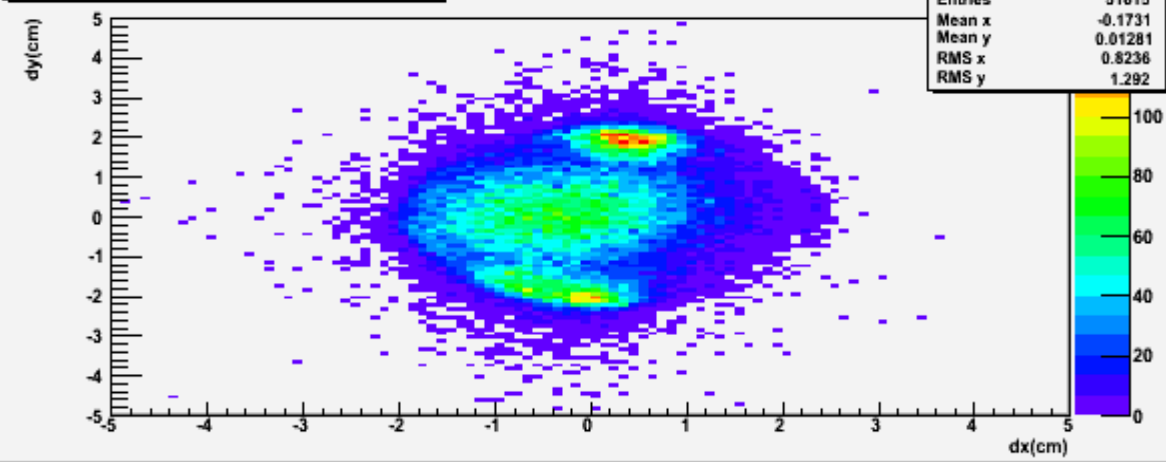




$$|dz| < 5.23 \text{ cm}$$

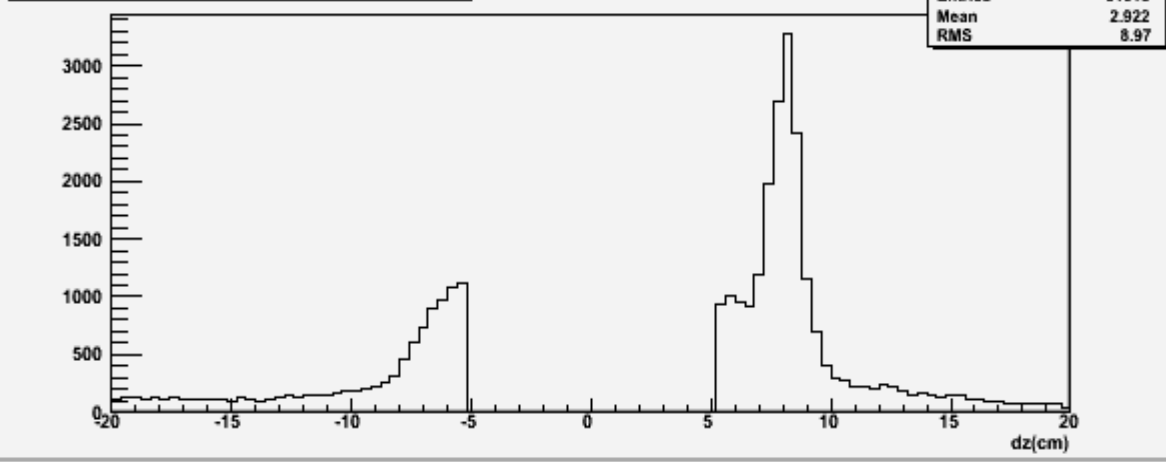


Vertex X and Y position outside target Z

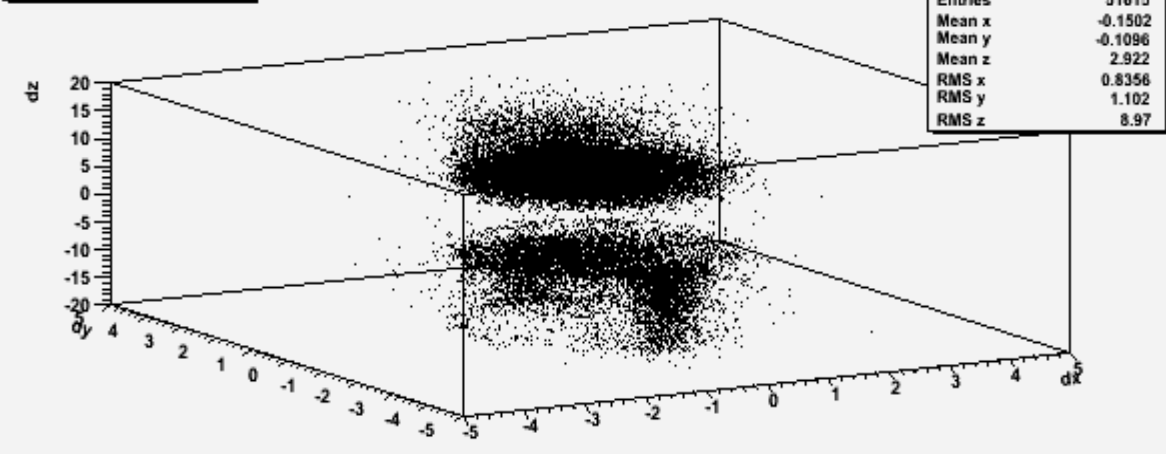


$$|dz| > 5.23 \text{ cm}$$

vertex Z from target center inside target Z



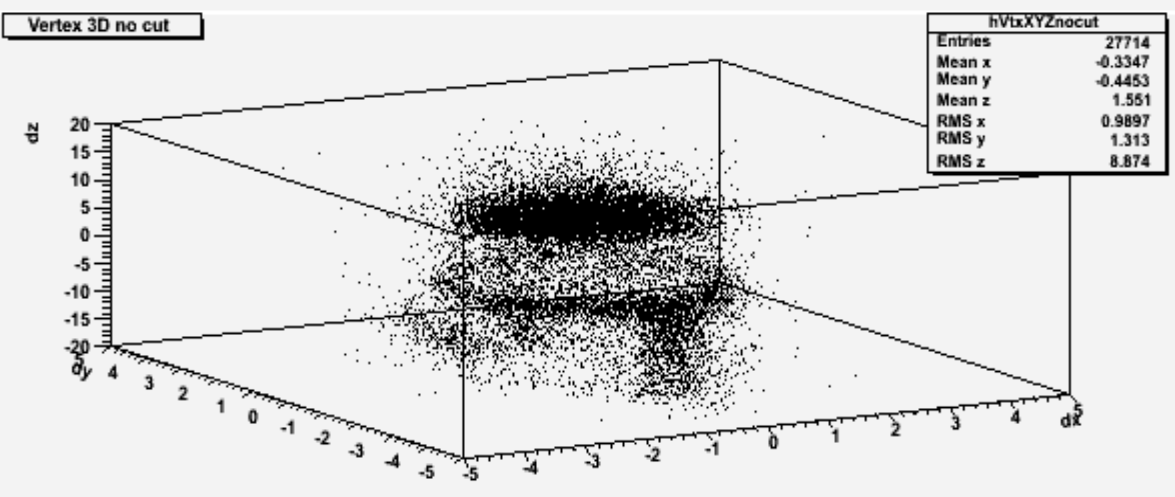
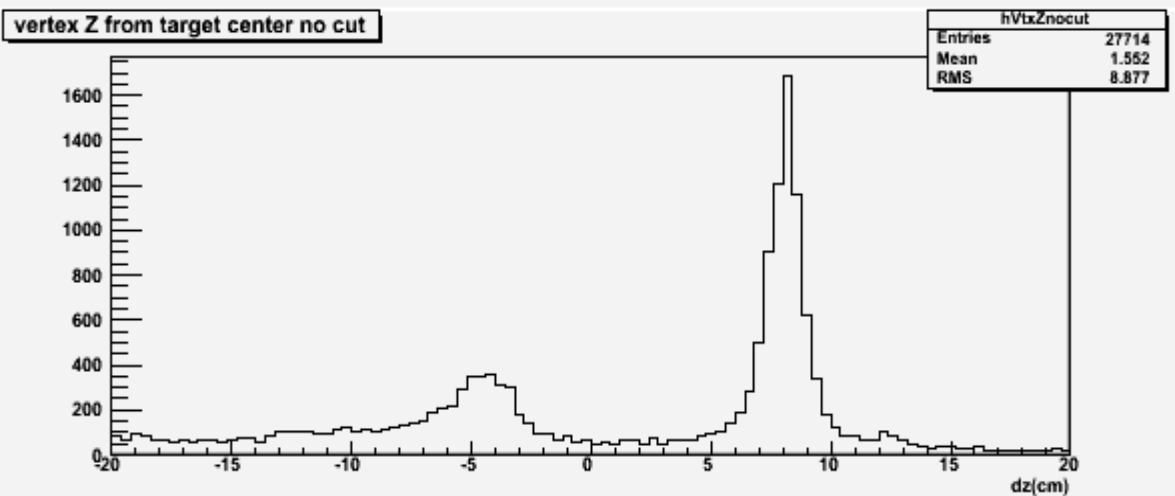
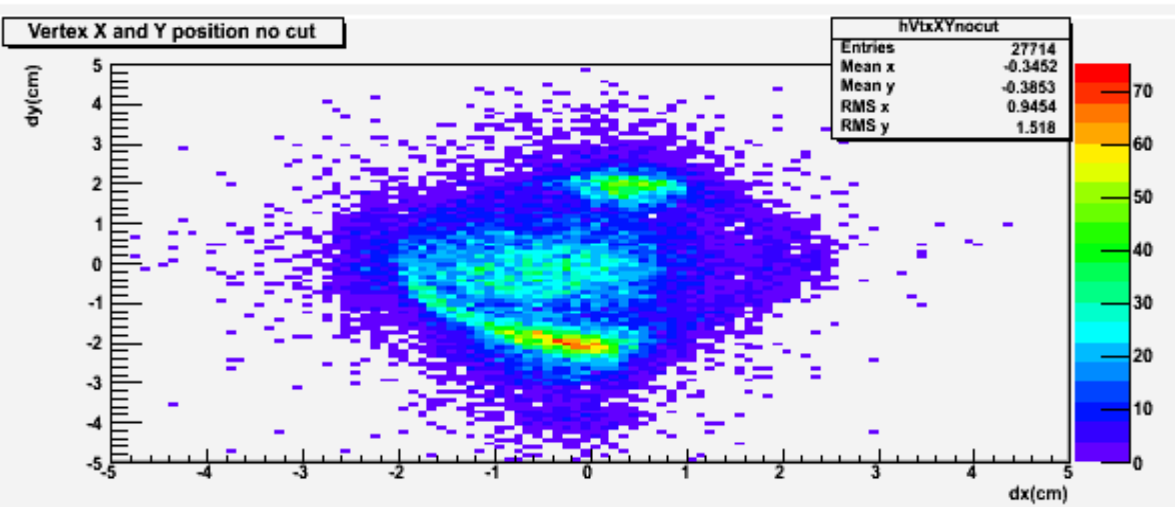
Vertex 3D out target Z

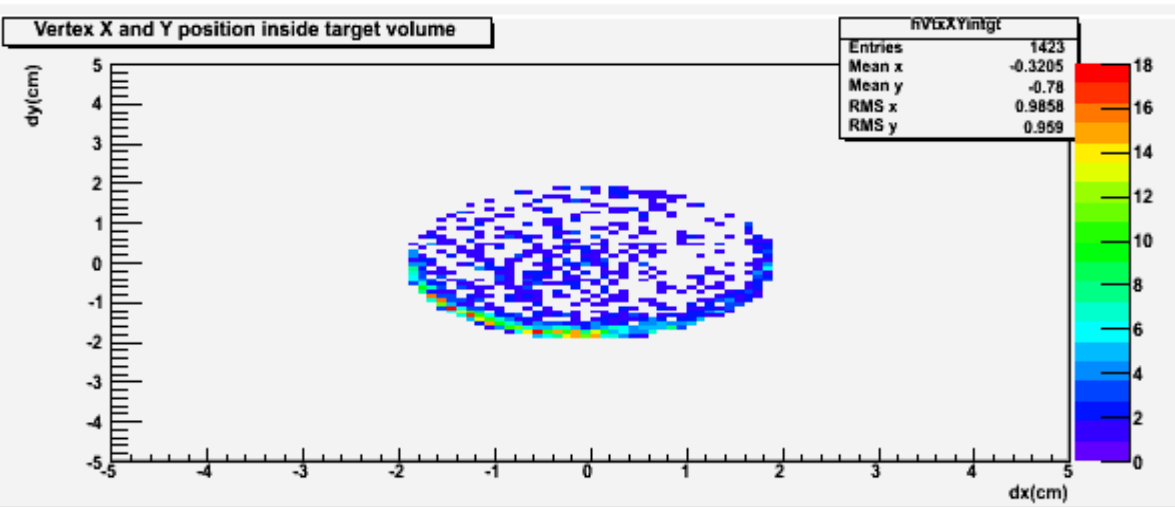


**EMPTY LH2 TARGET**

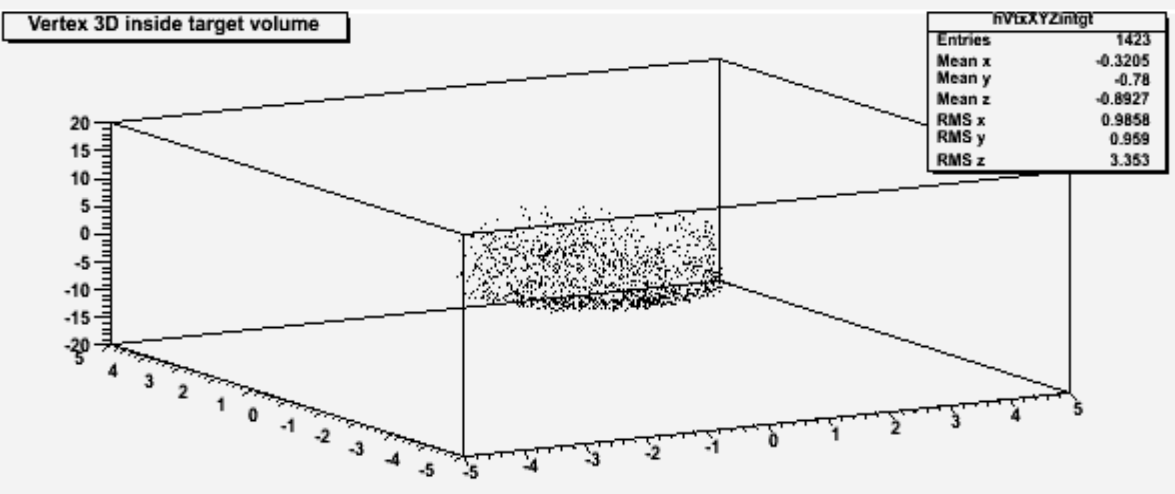
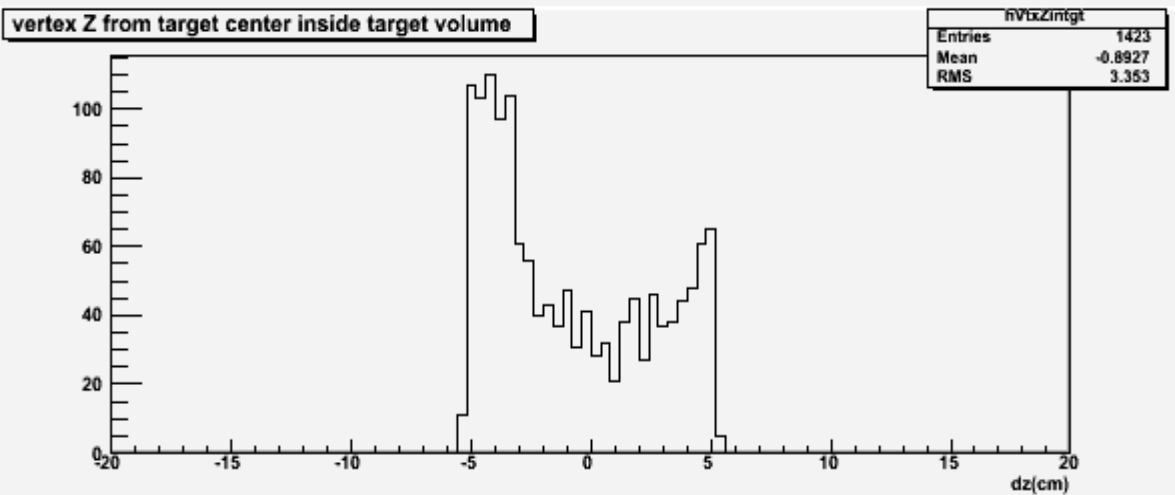


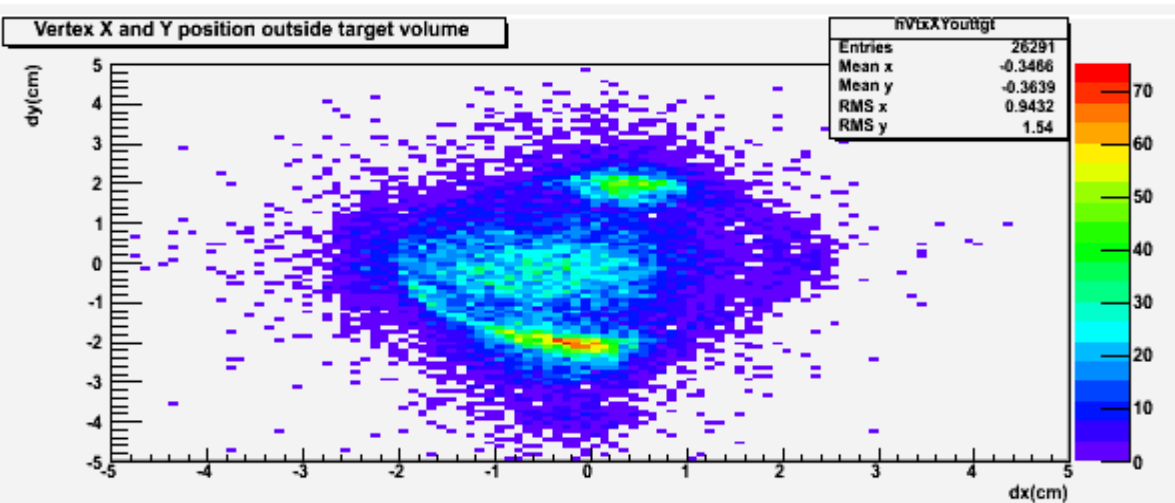
NO CUT on position



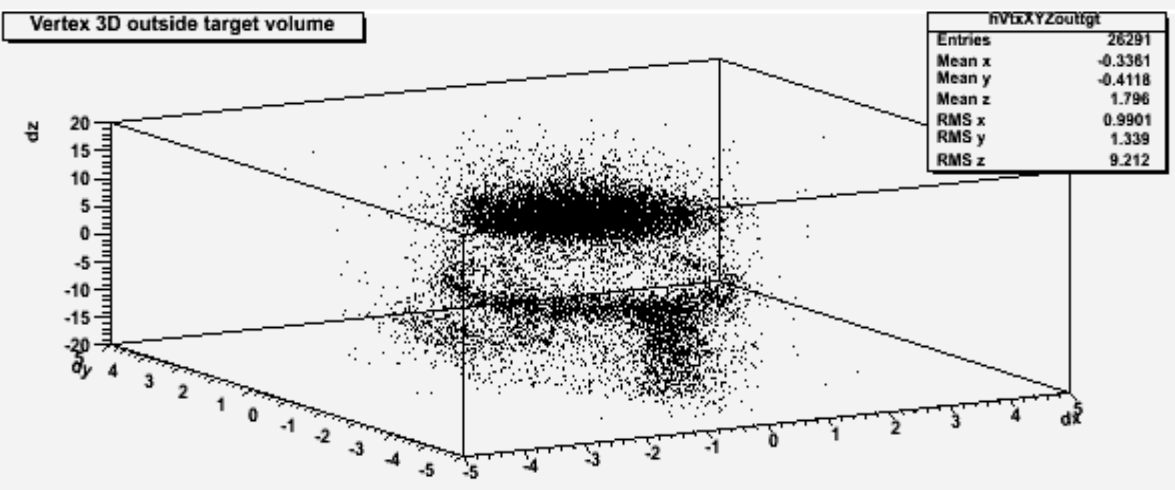
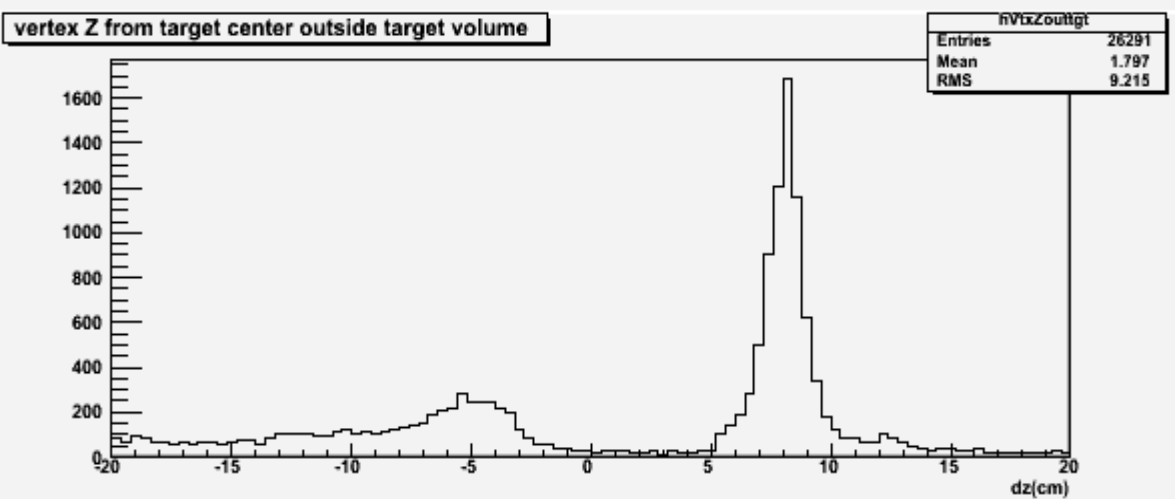


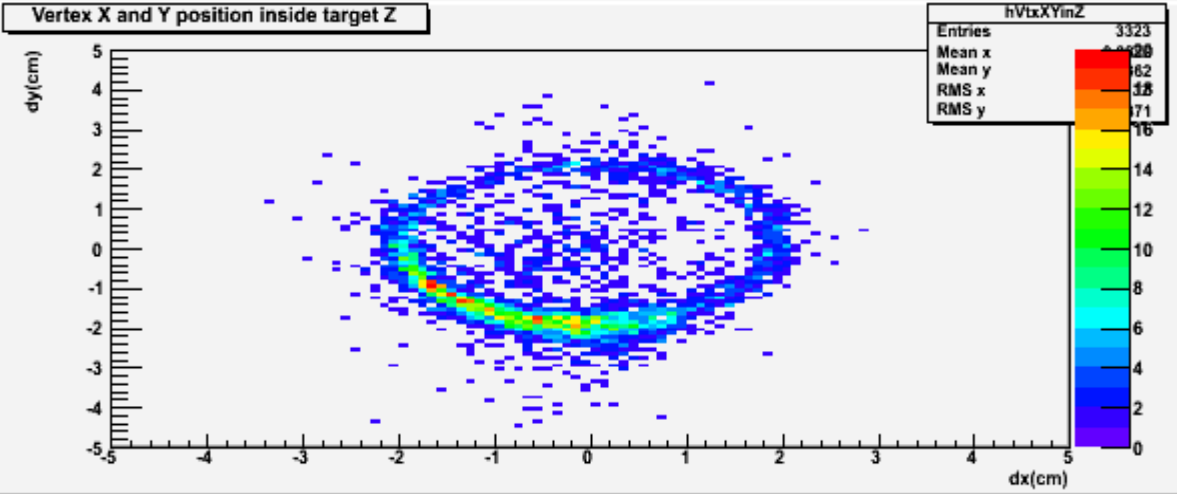
$R < 1.905 \text{ cm}$  AND  
 $|dz| < 5.23 \text{ cm}$



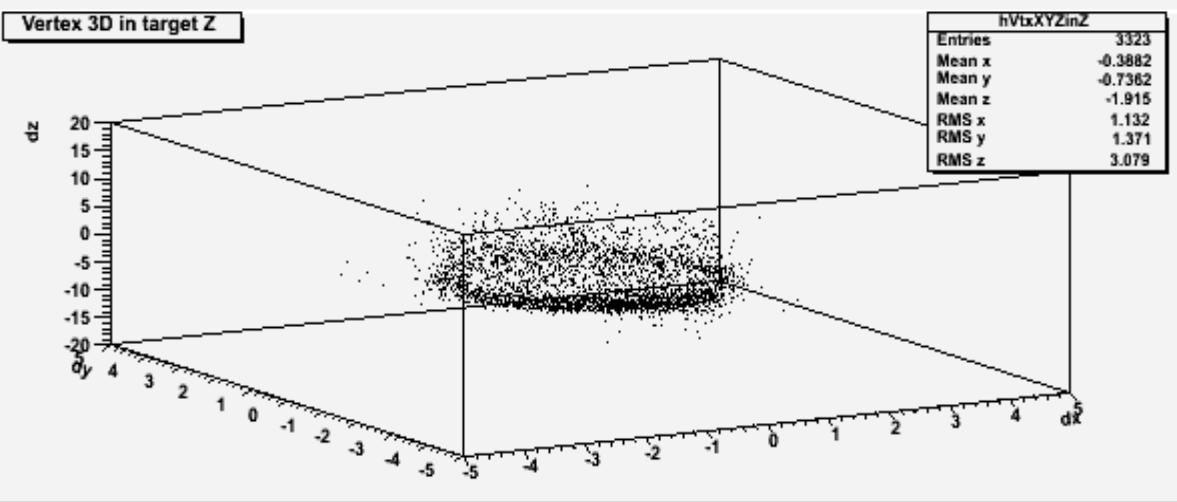
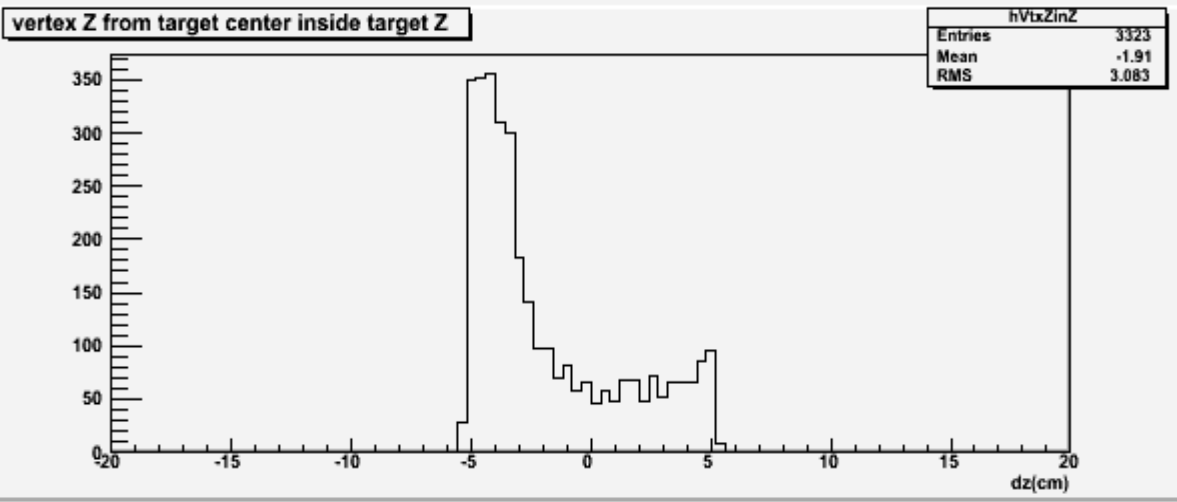


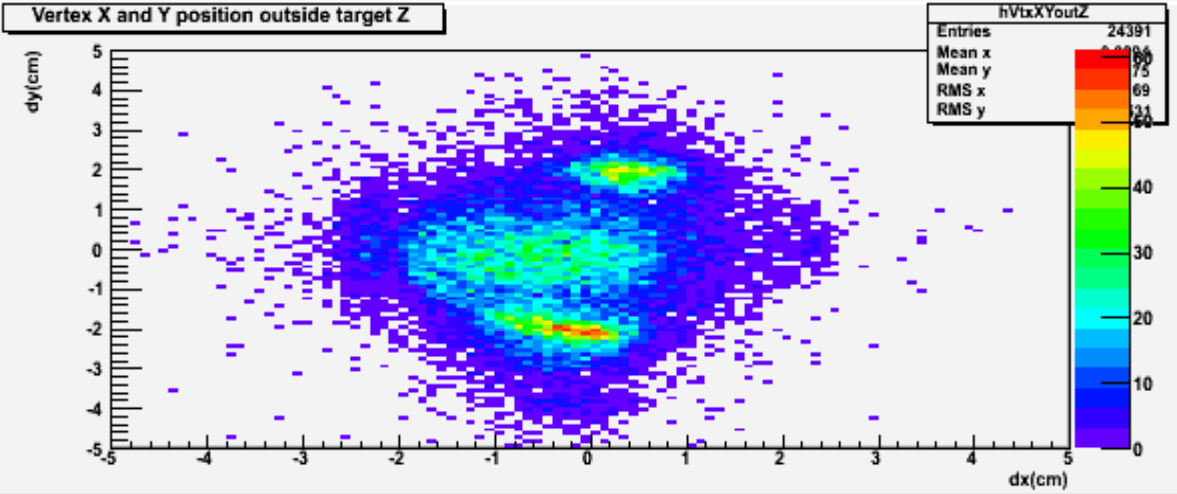
$R > 1.905$  cm OR  
 $|dz| > 5.23$  cm





$$|dz| < 5.23 \text{ cm}$$





$$|dz| > 5.23 \text{ cm}$$

